INSIDE AN ORANGE AMOEBA. WHERE DOES THE WHITE MEET THE ORANGE HERE?

A. WELL, IT'S EXACTLY THE POINT WHERE THE ORANGE CEASES AND THE WHITE BEGINS.

Q. WELL, LET ME TRY TO APPROACH THIS A SLIGHTLY DIFFERENT WAY, IF I MIGHT.

NOW, YOU MADE REFERENCE TO O.E.T. TECHNICAL BULLETIN NUMBER 69. REMEMBER THAT?

A. YES, SIR.

Q. AND THAT'S THE DOCUMENT IN WHICH YOU SAY THE F.C.C. HAS ADOPTED THE LONGLEY-RICE INPUT PARAMETERS THAT YOU'VE EMPLOYED FOR THE PURPOSES OF THIS GROUP EXERCISE IN THIS CASE, CORRECT?

A. YES, SIR.

Q. NOW, IN O.E.T. BULLETIN NUMBER 69 IS A DESCRIPTION OF HOW THE LONGLEY-RICE METHOD IS TO BE EMPLOYED AT LEAST FOR THE PURPOSES THAT ARE THE SUBJECT OF THAT TECHNICAL BULLETIN, RIGHT?

A. YES, SIR.

Q. AND CORRECT ME IF I'M WRONG, AND I'LL BE HAPPY TO SHOW YOU THE DOCUMENT IF YOU'RE NOT FAMILIAR ENOUGH WITH IT, BUT THE WAY IT DESCRIBES THE USE OF THE LONGLEY-RICE MODEL THERE, BASICALLY WHAT IT SAYS IS YOU TAKE THE AREA YOU'RE GOING TO SURVEY AND YOU BREAK IT UP INTO CELLS, RIGHT? ISN'T THAT THE FIRST SORT OF TECHNICAL STEP THAT THE

LONGLEY-RICE MODEL FOLLOWS?
A. YES, SIR.
Q. AND CELLS ARE SOME SMALL, SUBGEOGRAPHIC UNIT COMPRISED WITHIN THE AREA YOU'RE SURVEYING, RIGHT?
A. YES, SIR.
Q. FOR GREENSBORO, HOW MANY CELLS WOULD BE INVOLVED?
A. OH, IT BE THOUSANDS OF THEM.
Q. OKAY. AND IS THERE SOME UNIFORM DIMENSION TO A CELL?
A. YES.
Q. WHAT IS IT?
A. WELL, THAT DIMENSION CAN BE CHOSEN. IT CAN BE EITHER IN TERMS OF DISTANCE, KILOMETERS, PORTIONS OF A KILOMETER; OR IT CAN BE IN TERMS OF SO MANY SECONDS OF LATITUDE AND SO MANY SECONDS OF LONGITUDE.
Q. AND DOES THE F.C.C. ADDRESS THE CELL SIZE TO BE USE IN O.E.T. TECHNICAL BULLETIN NUMBER 69?
A. I DON'T THINK IT DOES. I DON'T REMEMBER THAT IT DOES. THE -- ALTHOUGH THE -- BY CHECKING WITH F.C.C. PERSONNEL, YOU CAN FIND OUT WHAT SIZE CELL THAT THEY USED.
Q. BUT YOU DON'T THINK IT'S SET FORTH IN THE TECHNICAL BULLETIN?
A. I DON'T THINK IT IS.
Q. WHEN MR. BRANDENBURG CREATED HIS VARIOUS DOTLESS LONGLEY-RICE MAPS FOR THE PURPOSES OF THIS EXERCISE, WHAT CELL SIZE DID HE USE?

A. IT WAS -- HIS CELL SIZE, ALTHOUGH IT WAS IN THE LATITUDE AND LONGITUDE, I FIGURED OUT WAS EQUIVALENT TO ABOUT 8/10THS OF A KILOMETER ON A SIDE.
Q. 8/10THS OF A KILOMETER SQUARE?
A. YES. WELL -- YES. WELL -- EXCUSE ME. HIS ISN'T PRECISELY SQUARE BECAUSE HE USED LATITUDE AND LONGITUDE, AND THEY -- THOSE AREN'T STRICTLY PARALLEL LINES. BUT IT'S APPROXIMATELY AN 8/10TH KILOMETER SQUARE.
Q. IS THAT THE SAME SIZE THAT THE F.C.C. PROSCRIBES?
A. THE F.C.C. IN ITS WORK ACTUALLY USED A SOMEWHAT LARGER GRID SIZE THAN THAT.
Q. SO MR. BRANDENBURG USED A DIFFERENT VARIATION THEN OF THE LONGLEY-RICE INPUT PARAMETER WITH RESPECT TO CELL SIZE THAN YOU SAY THE F.C.C. PROSCRIBES, CORRECT?
A. HE USED A FINER GRADATION, YES.
Q. RATHER THAN FINER OR COARSER, IT'S DIFFERENT, CORRECT?
A. CORRECT, YES, OF COURSE.
Q. OKAY. NOW, TAKING THIS TO THE NEXT STEP, IF I UNDERSTAND HOW THIS MODEL WORKS, YOU HAVE ALL THESE LITTLE CELLS, WHETHER THEY BE 8/10THS OF A KILOMETER SQUARE OR COARSER, AND THE NEXT THING YOU HAVE TO DO IS FIGURE OUT ONE SINGLE POINT WITHIN THE CELL, WHICH WILL BE YOUR CELL REFERENCE POINT, RIGHT?
A. CORRECT.
Q. AND ONCE -- HOW DO YOU FIGURE THAT POINT OUT?

A. THAT'S THE CENTER POINT OF THE CELL, AND THAT'S DETERMINED BY THE SOFTWARE OF THE PROGRAM.
Q. THE GEOGRAPHIC CENTER?
A. THE GEOGRAPHIC CENTER.
Q. IS THAT THE ONLY WAY IT'S DONE?
A. WELL, THERE ARE DIFFERENT APPROACHES. YOU CAN -- EITHER YOU CAN DIVIDE THE -- YOUR AREA UP INTO CELLS, OR YOU CAN USE RADIAL LINES RUNNING FROM THE TRANSMITTER. IN MY OWN WORK, I USUALLY USE RADIAL LINES AND I'LL SPACE THEM AS CLOSE AS ONE DEGREE APART. AND AS A MATTER OF FACT, THAT IS THE WAY THAT I CHECKED MR. BRANDENBURG'S WORK BY USING A SLIGHTLY DIFFERENT APPROACH OF EMPLOYING RADIAL LINES RATHER THAN THE CELL APPROACH THAT HE USED, AND ENDED UP WITH THE SAME RESULT.
Q. NOW, THE TECHNICAL BULLETIN DOESN'T TALK ABOUT USING RADIAL LINES, DOES IT?
A. NO, I DON'T BELIEVE IT DOES. IT TALKS IN TERMS OF GRIDS.
Q. IT TALKS IN TERMS OF CELLS, RIGHT?
A. CELLS, CELLS.
Q. WHICH IS DIFFERENT THAN RADIAL LINES, RIGHT?
A. YES, UM-HUM.
Q. OKAY. NOW, WE WERE TALKING ABOUT FIGURING OUT WHAT REFERENCE POINT YOU USE IN EACH PARTICULAR CELL IF YOU'RE GOING TO FOLLOW THE F.C.C. METHOD AS OPPOSED TO YOUR RADIAL

REFINEMENT. AND YOU SAID YOU USED THE GEOGRAPHIC CENTER. I MEAN YOU'VE GOT SOMETHING THAT'S -- JUST TO PICK AN EXAMPLE -- 8/10THS OF A KILOMETER SQUARE AND YOU FIND THE MIDDLE, IS THAT IT?

A. THAT'S MY UNDERSTANDING, YES.

Q. AND IS THAT HOW MR. BRANDENBURG DID IT?

A. THAT'S MY UNDERSTANDING, YES.

Q. WHAT'S THE SOURCE OF YOUR UNDERSTANDING AS TO HOW HE DID IT IN THAT RESPECT?

A. BECAUSE I KNOW HE USED CELLS AND THAT IS THE APPROACH THAT IS USED FOR CELLS.

Q. ISN'T THERE AN ALTERNATIVE APPROACH THAT IS USED FROM TIME TO TIME FOR CELLS?

A. NO, I'M NOT SURE. ALTERNATIVE FROM MY VIEWPOINT IS THE RADIAL LINES.

Q. WELL, LET'S SAY YOU'RE WORKING WITH CELLS AND THE QUESTION IS WHAT'S YOUR REFERENCE POINT WITHIN A PARTICULAR CELL. YOU'VE SAID YOU PICKED THE GEOGRAPHIC CENTER. ISN'T THERE ANOTHER WAY TO DO IT?

A. I'M NOT SURE.

Q. DOESN'T THE F.C.C. RECOGNIZE THE USE OF SOME KIND OF POPULATION CENTROID REFERENCE POINT WITHIN A PARTICULAR CELL?

A. WELL, NOW YOU'RE TALKING ABOUT SOMETHING ELSE. NOW YOU'RE TALKING -- NOW YOU'RE TALKING ABOUT CENSUS DATA. AND

WHAT THE CENSUS DATA IS BASED UPON IS THE CENSUS BLOCKS. AND FOR -- IN USING THE CENSUS DATA TO DETERMINE POPULATION IN AREA, YOU USED THE CENTROID OF THE CENSUS BLOCK.

AND --

Q. WELL, I WANT TO MAKE SURE I'M TALKING ABOUT THE SAME THING. I WANT TO DISCUSS WITH YOU HOW YOU FIGURE OUT WHAT POINT WITHIN A CELL TO BE A REFERENCE POINT FOR USE OF A LONGLEY-RICE MODEL. OKAY? IS THAT CLEAR?

A. YES.

Q. YOU'VE SAID YOU USE THE GEOGRAPHIC MIDPOINT, RIGHT?

A. THE GEOGRAPHIC MIDPOINT, THAT'S RIGHT.

Q. NOW, AS A MATTER OF FACT, THAT'S NOT THE F.C.C.'S PREFERRED METHOD, IS IT?

A. NO, I BELIEVE IT IS. AND YOU'RE -- YOU MIX UP TWO THINGS. IN DETERMINING POPULATION, WHICH IS AN IMPORTANT PART OF WHAT THE F.C.C. IS DOING, THEY USE THE CENSUS BLOCKS AND THE CENTROIDS OF THOSE BLOCKS. AND THEY -- THE CENTROID IS NOT THE GEOGRAPHIC CENTER, BUT IT'S BASED UPON THE POPULATION DENSITY IN THE BLOCK.

Q. WELL, I'M HAVING A LITTLE DIFFICULTY FOLLOWING YOU AND I APOLOGIZE FOR THAT. YOU STARTED OUT BY SAYING YOU FIND THE GEOMETRIC CENTER, THAT'S HOW THE F.C.C. PREFERS YOU DO IT, RIGHT?

A. INSOFAR AS PROPAGATION CALCULATIONS ARE CONCERNED, MEANING THAT THAT DETERMINATIONS OF WHERE A PARTICULAR FIELD

STRENGTH IS EXCEEDED.

Q. LET ME READ TO YOU --

A. AND THEN YOU SWITCHED TO CENSUS, AND THAT'S SOMETHING ELSE AGAIN.

Q. WELL, LET'S SEE IF THAT'S REALLY TRUE. I'M GOING TO READ FROM YOU O.E.T. BULLETIN NUMBER 69, MR. OLSON. IT'S PLAINTIFFS' EXHIBIT 333. AND THERE'S A SECTION -- PERHAPS I OUGHT TO SHOW THIS TO YOU, MR. COHEN, TO BE FAIR.

A. I HAVE A COPY --

Q. ALL RIGHT.

A. -- SOMEPLACE HERE.

Q. I THINK IT'S BEEN ADMITTED INTO EVIDENCE.

LET ME KNOW WHEN YOU FIND IT AND I'LL HELP YOU FIND THE RIGHT PASSAGE.

MR. SPECTOR: HE'S GOT IT.

BY MR. SCHWARTZ:

Q. TAKE A LOOK AT PAGE SEVEN, PLEASE. DO YOU HAVE THAT?

A. I HAVE IT.

Q. DO YOU SEE THE SECTION APPLICATION OF THE LONGLEY-RICE METHODOLOGY?

A. I DO.

Q. IT SAYS THE AREA SUBJECT TO CALCULATION IS DIVIDED INTO RECTANGULAR CELLS, RIGHT?

A. IT DOES.

Q. AND THEN IT GOES ON TO FIGURE OUT THE POINT CHOSEN FOR

PURPOSES OF MEASUREMENT. AND THEN IT SAYS FOR CELLS WITH POPULATION -- AND AFTER ALL, THAT'S WHAT WE'RE, BY DEFINITION, DISCUSSING TODAY -- THE POINT CHOSEN BY THE F.C.C. COMPUTER PROGRAM IS THE POPULATION CENTROID, RIGHT?

A. RIGHT.

Q. OTHERWISE, WHICH IS TO SAY IF THERE IS NO POPULATION, IT'S THE GEOMETRIC CENTER, RIGHT?

A. RIGHT.

Q. SO AS A MATTER OF FACT, WHAT THE F.C.C. SUGGESTS BE DONE IS YOU FIND THE POPULATION CENTROID FOR THE PURPOSES OF YOUR MEASUREMENT, NOT THE GEOMETRIC CENTER, AT LEAST WHERE PEOPLE ARE LIVING, RIGHT?

A. BUT YOU HAVE TO LOOK AT THE PURPOSE. THE --

THE COURT: WELL, HOW ABOUT ANSWERING HIS QUESTION FIRST, YES OR NO OR I CAN'T ANSWER IT YES OR NO.

THE WITNESS: I CAN'T ANSWER IT YES OR NO, YOUR HONOR. IT'S NECESSARY TO RELATE THIS TO THE PROPER CONTEXT OF THIS PARAGRAPH.

THE COURT: WELL, BUT TRY.

REPEAT THE QUESTION, MADAM COURT REPORTER, PLEASE.

THE COURT REPORTER: "QUESTION: SO AS A MATTER OF FACT, WHAT THE F.C.C. SUGGESTS BE DONE IS YOU FIND THE POPULATION CENTROID FOR THE PURPOSES OF YOUR MEASUREMENT, NOT THE GEOMETRIC CENTER, AT LEAST WHERE PEOPLE ARE LIVING, RIGHT?

A. I HAVE TO RESPOND THIS WAY. IF YOUR INTEREST IS POPULATION, THEN YOU USE THE POPULATION CENTROID. IF YOU JUST HAVE A GENERAL INTEREST IN FIELD STRENGTH, REGARDLESS OF WHETHER PEOPLE LIVE THERE OR NOT, YOU USE THE GEOMETRIC CENTER.

Q. WELL, IN THIS CASE, IF I UNDERSTAND THE COMPOSITE EFFORT THAT YOU AND YOUR VARIOUS SUPERVISEES WERE WORKING ON, THE IDEA WAS -- WITHOUT SUGGESTING WE ACCEPT IT -- WAS TO FIGURE OUT WHERE PEOPLE LIVED WHERE SIGNALS GO, RIGHT? THAT'S A FAIR SUMMARY, ISN'T IT?

A. NO.

Q. WELL, ISN'T THE WHOLE POINT OF THIS DOT EXERCISE TO TRY TO PLOT LOCATIONS OF PRIMETIME 24 SUBSCRIBERS ALLEGEDLY ON SIGNAL STRENGTH MAPS?

A. DATAWORLD WAS DIRECTED TO CREATE LONGLEY-RICE MAPS WHICH SHOW WHERE TO EXPECT PARTICULAR SIGNAL INTENSITIES ARE GREATER.

Q. AND IT SOUNDS LIKE DATAWORLD DIDN'T DO IT THE WAY THE F.C.C. PROSCRIBES.

A. THEY DID. OTHERWISE, IT IS GEOMETRIC CENTER. IT IS ONLY WHERE YOU ARE LOOKING FOR POPULATION THAT YOU USE THE POPULATION CENTROID.

Q. THIS DOESN'T SAY THAT.

A. WELL --

Q. IT SAYS YOU GOT TO FIND A REFERENCE POINT IN EACH

PARTICULAR CELL. IT SAYS IF THE CELLS GOT PEOPLE, YOU FIND THE POPULATION CENTROID. IT'S NOT AMBIGUOUS, IS IT? YOU DIDN'T DO IT, RIGHT?

A. I CAN'T AGREE WITH YOU AT ALL, MR. SCHWARTZ. YOU HAVE TO LOOK AT THIS PARAGRAPH AND SEE WHAT IS THE INTENT.

Q. IT SAYS APPLICATION --

A. MAY I FINISH?

THE COURT: ONE AT A TIME, PLEASE.

THE WITNESS: I WOULD LIKE TO FINISH.

THE COURT: YES.

A. THE POINT SO DETERMINED, WHICH IS THE POPULATION CENTROID, REPRESENTS THE CELLS IN ALL SUBSEQUENT SERVICE AND INTERFERENCE CALCULATIONS. WE WEREN'T MAKING SERVICE AND INTERFERENCE CALCULATIONS IN THE SENSE THAT THE F.C.C. WAS -- IS DESCRIBING HERE.

Q. SO YOU WERE USING LONG -- I'M SORRY.

A. WE ARE LOOKING FOR THOSE GENERAL AREAS WITHOUT REGARD TO POPULATION, BECAUSE WE ARE NOT GOING TO COUNT POPULATION, WHICH HAVE -- THAT CAN BE EXPECTED TO HAVE SIGNAL STRENGTH OF PARTICULAR, PARTICULAR LEVELS.

AND I ASSURE YOU FURTHER, SIR, THAT WE ARE REALLY INVOLVED IN A QUIBBLE HERE BECAUSE THERE WOULD BE VERY LITTLE DIFFERENCE. AS A MATTER OF FACT, YOU PROBABLY COULDN'T SEE A DIFFERENCE IN THE MAPS, WHETHER YOU BASE IT ON THE GEOMETRIC CENTER OF A CELL OR YOU USE THE CENTROIDS

OF THE U.S. CENSUS CELL BLOCKS.
Q. WELL, IF I UNDERSTAND YOU CORRECTLY, YOU'RE SAYING IT WOULDN'T MAKE A DIFFERENCE, EVEN THOUGH HE DID IT ONE WAY WHICH APPEARS TO BE WRONG, IF HE DID IT ANOTHER WAY WHICH WOULD BE RIGHT. IT WOULD STILL COME OUT LOOKING SUBSTANTIALLY THE SAME, IS THAT WHAT YOU ARE SAYING?
A. MR. SCHWARTZ, I HAVE TO PROTEST THIS BUSINESS OF WRONG AND RIGHT. THE COMMISSION ACKNOWLEDGES IN THIS PARAGRAPH WE HAVE BEEN TALKING ABOUT THAT WHEN YOU'RE NOT INTERESTED IN POPULATIONS, THE GEOMETRIC CENTER, THERE IS NOTHING WRONG ABOUT USING THE GEOMETRIC CENTER.
Q. WHERE DOES IT SAY WHEN YOU'RE NOT INTERESTED IN POPULATION?
A. OTHERWISE, IT IS THE GEOMETRIC CENTER.
Q. NOW, LET'S JUST FOCUS ON THE SENTENCE, MR. COHEN. THE FIRST THING WE HAVE DONE IS IDENTIFY CELLS. WE AGREE WITH THAT, RIGHT?
A. THERE ARE TWO TYPE OF CELLS WE ARE TALKING ABOUT HOWEVER. THERE IS A CELL WHICH CAN BE TOTALLY INDEPENDENT OF POPULATION AND THERE IS A CELL WHICH IS BASED UPON U.S. CENSUS CELL BLOCKS.
Q. NOW, LET'S JUST TAKE A LOOK AT THE PARAGRAPH AGAIN. IT SAYS THE AREA SUBJECTED TO CALCULATION IS DIVIDED INTO RECTANGULAR CELLS, CORRECT?
A. YES.

Q. RECTANGLES, RIGHT?
A. YES.
Q. SOME NUMBER OF KILOMETERS ON ONE SIDE AND SOME NUMBER OF KILOMETERS ON THE OTHER, RIGHT?
A. SIR, IT'S RECTANGULAR BECAUSE IT'S BASED ON LATITUDE AND LONGITUDE. BECAUSE THE -- AS I POINTED OUT BEFORE, IF YOU LOOK AT LINES OF EQUAL LONGITUDE, THEY CONVERGE AS THE LATITUDE CHANGES. SO IT ISN'T QUITE RECTANGULAR. BUT A RECTANGLE IS CLOSER THAN A SQUARE, AS FAR AS THE USING LATITUDE AND LONGITUDE FOR THE DEFINITION OF THE BOX.
Q. NOW, WAIT A MINUTE. NOW YOU'RE DISAGREEING WITH THE FIRST SENTENCE OF THE WAY THE F.C.C. DESCRIBES APPLICATION OF WHAT YOU CONSIDER TO BE --
A. -NO.
Q. -- METHODOLOGY --
A. NO, SIR, I AM NOT DISAGREEING WITH THE F.C.C. IN ANY FASHION. BUT AS I POINTED OUT BEFORE, YOU CAN EITHER USE LINEAR UNITS OF DISTANCE IN THE LONGLEY-RICE PROCESS OR YOU CAN USE LATITUDE AND LONGITUDE. AND IF YOU USE LATITUDE AND LONGITUDE TO DEFINE YOUR CELL, IT'S NOT SQUARE. I MEAN YOUR SQUARE BLOCK -- YEAH, YOUR CELL -- IT'S NOT SQUARE. IT CONVERGES TO THE NORTH.
Q. WELL, LET'S BACK UP HALF A STEP. DURING YOUR DIRECT EXAMINATION, YOU WERE ASKED QUESTIONS ABOUT WHETHER THE F.C.C. HAS ADOPTED THE LONGLEY-RICE METHODOLOGY FOR ANY

PURPOSE. REMEMBER THAT?
A. YES, SIR.
Q. AND YOU TOLD MR. OLSON IT HAD, RIGHT?
A. YES, SIR.
Q. AND HE ASKED YOU WHERE YOU COULD FIND IT IN SUM AND SUBSTANCE, AND YOU TOLD HIM O.E.T. BULLETIN NUMBER 69, RIGHT?
A. YES, SIR.
Q. THAT'S THE F.C.C. BIBLE ON LONGLEY-RICE, RIGHT?
A. YES, SIR.
Q. OKAY. AND CORRECT ME IF I'M WRONG, BUT THE PARAGRAPH AND THE SECTION THAT SEEMS TO MOST DIRECTLY ADDRESS HOW YOU'RE GOING TO APPLY THE LONGLEY-RICE METHODOLOGY IS THE ONE CALLED "APPLICATION OF THE LONGLEY-RICE METHODOLOGY," RIGHT? I MEAN I'M READING THE RIGHT PARAGRAPH.
A. YOU'RE READING THE RIGHT PARAGRAPH, YES, SIR.
Q. OKAY. NOW, THE FIRST SENTENCE SAYS, "THE AREA SUBJECT TO CALCULATION IS DIVIDED INTO RECTANGULAR CELLS," RIGHT?
A. RIGHT.
Q. THAT'S WHAT THE F.C.C. SAYS.
A. RIGHT.
Q. OKAY. AND THEN IT SAYS THE LONGLEY-RICE POINT-TO-POINT PROPAGATION MODEL VERSION 1.2.2 IS APPLIED TO A POINT IN EACH CELL, RIGHT?

A. YES, YOU ARE READING CORRECTLY.
Q. THANK YOU.
I'M GOING TO SKIP ONE SENTENCE. FOR CELLS WITH POPULATION, THE POINT CHOSEN BY THE F.C.C. COMPUTER PROGRAM IS THE POPULATION CENTROID, RIGHT?
A. RIGHT.
Q. DID MR. BRANDENBURG --
A. WOULD YOU PLEASE READ THE NEXT PHRASE?
Q. I'LL BE HAPPY TO IN A SECOND.
DID MR. BRANDENBURG USE THE LONGLEY-RICE POINT-TO-POINT PROPAGATION MODEL VERSION 1.2.2 WITH RESPECT TO ANY CELLS IN THESE 43 MARKETS IN WHICH PEOPLE LIVED?
A. WELL, YES, IF ONE IS INTERESTED IN DETERMINING HOW MANY PEOPLE ARE LIVING IN THAT VICINITY.
Q. SO --
A. THE COMMISSION ACKNOWLEDGES IN THE PHRASE THAT I ASKED YOU TO READ, WHICH YOU STOPPED SHORT OF READING, OTHERWISE, A GEOMETRIC CENTER, THEY ACKNOWLEDGE THERE THAT IF YOU'RE NOT INTERESTED IN POPULATION, THE GEOMETRIC CENTER OF THE CELL IS A SUITABLE THING TO USE.
THE PURPOSE --
Q. GO AHEAD, I'M SORRY.
A. -- AS SPELLED OUT IN THIS PARAGRAPH, THE PURPOSE HERE IS TO MAKE SERVICE AND INTERFERENCE CALCULATIONS WHICH INVOLVE POPULATIONS AFFECTED EITHER BY SERVICE OR

INTERFERENCE. SINCE WHAT WE ARE, WE WERE SOLELY INTERESTED IN WERE GENERAL AREAS WHERE SIGNAL INTENSITIES OF PARTICULAR LEVELS WERE EXCEEDED, WE HAD NO INTEREST IN HOW MANY PEOPLE MIGHT BE LIVING IN THESE PARTICULAR AREAS. SO THE "OTHERWISE" PORTION OF THAT SENTENCE IS EMPLOYED.

Q. WELL, ACTUALLY --

A. BECAUSE WE DID NOT, WE DID NOT ASK -- I DID NOT ASK MR. BRANDENBURG OR DATAWORLD TO RELATE THIS TO THE U.S. CENSUS.

Q. ACTUALLY, YOU HAD A LOT OF INTEREST IN WHERE PEOPLE WERE LIVING. THAT'S WHAT YOU WERE TRYING TO PROVE THAT PEOPLE WERE LIVING IN THESE AREAS, ISN'T THAT RIGHT? WASN'T THAT THE PURPOSE OF YOUR MISSION?

A. I WAS INTERESTED ONLY IN WHERE PEOPLE HAD SIGNED UP FOR PRIMETIME 24.

Q. THAT'S WHERE THEY LIVE.

A. NOW, AS I HAD, AS I HAD SAID TO YOU BEFORE, THE NET EFFECT IN CREATING MAPS OF THIS KIND WOULD HAVE LITTLE DIFFERENCE IF YOU USED THE CENSUS BLOCK INFORMATION RATHER THAN JUST CELLS WHICH ARE, WHICH ARE BASED ON PARTICULAR NUMBER OF SECONDS OR MINUTES OF LATITUDE AND LONGITUDE.

BUT IF YOU'RE GOING TO MAKE AN ANALYSIS OF THE NUMBER OF PEOPLE RECEIVING SERVICE AND THE NUMBER OF PEOPLE RECEIVING INTERFERENCE, THEN IN ORDER TO EMPLOY THE U.S. CENSUS DATA, IT'S NECESSARY TO USE THE CENTROIDS WHICH

ARE DETERMINED BY THE U.S. CENSUS FOR EACH OF THE BLOCKS IN WHICH THEY COUNTED POPULATION.

Q. NOW, MR. COHEN, ISN'T THE FAIR READING OF THE SENTENCE WITH THE SEMICOLON IN IT THAT IF YOU'RE DEALING WITH A CELL WHERE PEOPLE LIVE, YOU USE THE POPULATION CENTROID; AND IF YOU'RE DEALING WITH A CELL WHERE THERE IS ONLY CATTLE, YOU USE THE GEOMETRIC CENTER? ISN'T THE ONLY FAIR READING OF THIS DOCUMENT?

A. NO, IT'S NOT, MR. SCHWARTZ.

YOU HAVE TO READ IT IN THE SENSE THAT THE F.C.C. IS GETTING AT IN DETERMINING THE PEOPLE RECEIVING SERVICE AND THE PEOPLE THAT MIGHT BE AFFECTED BY INTERFERENCE. THEREFORE, WHERE PEOPLE LIVE, IT'S NECESSARY TO USE U.S. CENSUS DATA AND THE CENTROIDS OF THE U.S. CENSUS BLOCKS. IF YOU'RE NOT TRYING TO MAKE THAT KIND OF A DETERMINATION AND YOU NEED NOT GO TO THE U.S. CENSUS DATA BASE, YOU CAN SIMPLY SPECIFY THE SIZE OF THE BLOCK BY GEO -- BY LATITUDE AND LONGITUDE OR BY PHYSICAL DISTANCES.

Q. CAN YOU POINT THE COURT TO ANY LANGUAGE IN O.E.T. BULLETIN NUMBER 69 THAT REMOTELY SUPPORTS THAT INTERPRETATION OF THAT SENTENCE?

MR. OLSON: ASKED AND ANSWERED, YOUR HONOR.

THE COURT: OVERRULED.

A. IT'S THIS WHOLE PARAGRAPH, MR. SCHWARTZ. YOU READ THE PARAGRAPH. AND THE PURPOSE OF THE EXERCISE THAT THE

COMMISSION IS DESCRIBING IS TO DETERMINE SERVICE AND INTERFERENCE. AND WHAT THEY'RE TALKING ABOUT IS SERVICE TO PEOPLE AND INTERFERENCE TO PEOPLE, WHICH IS WHY IT IS NECESSARY TO USE THE CENTROIDS OF THE CENSUS BLOCKS IN ORDER THAT YOU CAN TAKE ADVANTAGE OF THE U.S. CENSUS DATA BASE. BUT WHEN WE ARE NOT USING THE U.S. CENSUS DATA BASE IN ANY FASHION, WE DON'T USE THE CENTROIDS OF THE CENSUS BLOCKS.

Q. WELL, IN ANY EVENT --

A. AND I STILL INSIST THAT IF YOU DO IT EITHER WAY, THAT THE PICTURE'S GOING TO BE PRETTY MUCH THE SAME.

MR. SCHWARTZ: YOUR HONOR, I WILL MOVE TO STRIKE THE GRATUITOUS ADDITION.

THE COURT: NO, I WILL NOT STRIKE THAT. THAT MOTION IS DENIED.

BY MR. SCHWARTZ:

Q. IN ANY EVENT, WHETHER IT'S WHAT THE F.C.C. SUGGESTS SHOULD BE DONE OR OTHERWISE, WHAT MR. BRANDENBURG DID TO THE BEST OF YOUR KNOWLEDGE WAS USE THE GEOMETRIC CENTER --

A. THAT'S RIGHT.

Q. -- FOR EACH OF THE CELLS?

A. YES.

Q. AND YOU'RE SURE OF THAT?

A. I'M QUITE SURE OF THAT. HE DID NOT GO TO THE U.S. CENSUS DATA BASE TO GET HIS CENTROIDS.

Q. AS SURE AS YOU ARE THAT MR. STIELPER FOUND ALL THE 400

AND THE NEXT THING YOU HAVE TO DO OR A NEXT THING YOU HAVE TO DO IS FIGURE OUT WHAT'S THE TIME VARIABILITY, RIGHT?

A. YES, SIR.

Q. BECAUSE WE'RE TALKING X PERCENT OF THE HOUSES X PERCENT OF THE TIME?

A. MR. SCHWARTZ, I WISH YOU WOULDN'T SAY "X PERCENT OF THE HOUSES," BECAUSE WE'RE TALKING ABOUT X PERCENT OF LOCATIONS. THERE MAY OR MAY NOT BE HOUSES THERE.

Q. ALL RIGHT. X PERCENT OF THE LOCATIONS, X PERCENT OF THE TIME -- Y PERCENT OF THE TIME, RIGHT?

A. YES, SIR.

Q. SO YOU'VE GOT TO SET AT LEAST X AND Y, RIGHT?

A. YES, SIR.

Q. AND WHEN YOU TESTIFIED AS TO THE APPLICATION OF THE LONGLEY-RICE METHOD AS YOU HAD MR. BRANDENBURG EMPLOY IT ON YOUR DIRECT EXAM, YOU TALKED ABOUT THE LOCATION VARIABILITY AND YOU TALKED ABOUT THE TIME VARIABILITY AND YOU TALKED ABOUT THE ANTENNA HEIGHT FOR THE HOUSE AND THE ANTENNA HEIGHT FOR THE STATION AND ITS EFFECTED RADIATED POWER, BUT THERE IS ONE THING, AT A MINIMUM, YOU LEFT OUT, ISN'T THERE?

A. WELL, THERE'S PROBABLY A NUMBER OF THINGS, BUT WHAT ARE YOU REFERRING TO?

Q. WHAT ABOUT THE STATISTICAL CONFIDENCE LEVEL?

A. THAT IS CORRECT. THERE IS AN ALSO A -- ONE CAN PUT IN

A STATISTICAL CONFIDENCE LEVEL IN ADDITION.

Q. YOU HAVE TO PUT IT IN.

A. IT'S NOT IN, IT'S NOT IN TERMS OF A CONFIDENCE LEVEL, HOWEVER; IT'S IN TERMS OF THE NUMBER OF DECIBELS THAT YOU MIGHT WANT TO ADD OR SUBTRACT IN ORDER TO AFFECT THE STATISTICAL PROBABILITY.

Q. LET'S TAKE THIS ONE STEP AT A TIME. YOU DIDN'T TELL MR. OLSON THAT YOU HAD TO FOCUS ON THAT FACTOR, DID YOU?

A. I DON'T THINK THAT WAS MENTIONED, NO.

Q. AND WHAT STATISTICAL CONFIDENCE FACTOR DID YOU HAVE MR. BRANDENBURG USE?

A. IT'S NOT, AS I SAID, IT'S NOT A STATISTICAL CONFIDENCE FACTOR; IT'S THE NUMBER OF DECIBELS THAT YOU MIGHT WANT TO ADD OR SUBTRACT FOR WHATEVER REASON. AND THE -- AND WE ADDED NO DECIBELS NOR DID WE SUBTRACT ANY DECIBELS FROM THE MEDIAN RESULT.

Q. NOW, CAN YOU TAKE A LOOK AT THE SAME PAGE OF O.E.T. TECHNICAL BULLETIN THAT WE HAVE BEEN FOCUSING ON AND LOOK AT THE LAST PARAGRAPH, PLEASE?

A. YES, SIR.

Q. IN THE SECOND TO LAST SENTENCE HERE DESCRIBING HOW TO USE THE LONGLEY-RICE SYSTEM FOR THE PURPOSES THE F.C.C. HAD IN MIND HERE SAYS, THE PERCENT CONFIDENCE IS SET AT 50 PERCENT, CORRECT?

A. YES. AND THE WAY -- EXCUSE ME -- THE WAY YOU SET THAT

AT 50 PERCENT IS TO INDICATE AS AN INPUT PARAMETER -- THANK YOU, SIR -- AS AN INPUT PARAMETER THAT YOU ARE NEITHER SUBTRACTING NOR ADDING -- THANK YOU -- ANY DECIBELS TO THE RESULTS.

Q. AND IF I UNDERSTAND WHAT YOU'RE SAYING, IF I UNDERSTAND IT, WHEN YOU HAD -- WHEN YOU SUPERVISED MR. BRANDENBURG'S PREPARATION OF THE DOTLESS MAPS, YOU HAD HIM USE THIS 50 CONFIDENCE LEVEL, IS THAT RIGHT?

A. THAT'S RIGHT. HE WAS NOT TO APPLY ANY NUMBER OF DECIBELS, EITHER POSITIVE OR NEGATIVE, WHICH WOULD DEPART FROM THE 50 PERCENT CONFIDENCE FACTOR.

Q. AND IF I UNDERSTAND CORRECTLY THEN, YOU'RE TALKING ABOUT THE WAY YOU PROGRAMMED THE MODEL FOR YOUR PURPOSES, 50 PERCENT OF THE LOCATIONS 50 PERCENT OF THE TIME WITH ONLY A 50 PERCENT CONFIDENCE LEVEL, IS THAT RIGHT?

A. THANK YOU, SIR.

YES, SIR, THAT'S STANDARD METHOD OF PROCEEDING.

Q. QUITE APART FROM WHETHER IT'S STANDARD FOR SOME PURPOSES, THAT'S WHAT YOU DID, OR YOU AT LEAST SUPERVISED MR. BRANDENBURG DOING IT HERE, CORRECT?

A. THAT IS CORRECT, I USED THE SAME PROCEDURES AS THE F.C.C.

Q. AND IF YOU WANTED TO HAVE A GREATER CONFIDENCE LEVEL IN THE CREATION OF THE DOTLESS MAPS, THE PREPARATION OF WHICH YOU SUPERVISED HERE, YOU COULD HAVE SET THAT CONFIDENCE

FACTOR AT SAY 95 PERCENT, THE WAY STATISTICIANS TYPICALLY DO, CORRECT?

A. YES, BUT THE APPROACH HERE IS QUITE DIFFERENT.

Q. I'M AWARE OF THAT. BUT THAT'S, THAT'S JUST THE POINT. YOU LEFT IT AT 50 PERCENT, CORRECT?

A. YES, SIR.

Q. AND YOU ARE AWARE GENERALLY THAT WHEN STATISTICIANS, YOU MAY NOT BE AN EXPERT STATISTICIAN, BUT YOU ARE AWARE THAT WHEN STATISTICIANS WANT TO HAVE SUFFICIENT CONFIDENCE TO MAKE STATISTICAL CONCLUSIONS OR DRAW STATISTICAL CONCLUSIONS, THEY ARE USUAL UP AT THAT 95 PERCENT LEVEL, AREN'T THEY?

A. YOU'RE RIGHT, SIR.

Q. NOW, YOU MENTION THERE ARE SOME OTHER VARIABLES THAT HAVE TO BE PROGRAMMED INTO THE LONGLEY-RICE MODEL THAT HAVE TO DO WITH CLIMATE AND GROUND COVER AND VARIOUS OTHER SUCH FACTORS, RIGHT?

A. YES, SIR.

Q. AND SOMEBODY'S GOT TO MAKE SOME DECISION AS TO HOW TO PROGRAM EACH AND EVERY ONE OF THOSE INPUT PARAMETERS BEFORE SOMEBODY LIKE MR. BRANDENBURG CAN CREATE THE DOTLESS MAPS THAT YOU SAY WERE CREATED HERE, RIGHT?

A. THAT IS CORRECT, SIR.

Q. NOW, WHEN MR. BRANDENBURG FINISHED THE WORK YOU WERE SUPERVISING CREATING THE LONGLEY-RICE MAPS WITH THOSE

Q. AND WHEN YOU SAY ATTENUATE, IF YOU'RE SOMEHOW BLOCKED BY A FOREST, EVEN IN THE ABSENCE OF TERRAIN CHARACTERISTICS OR BUILDINGS, YOUR TELEVISION SIGNAL CAN BE BELOW THE LEVEL NECESSARY TO GET AN ACCEPTABLE PICTURE, RIGHT?

A. THAT'S CORRECT.

Q. AND AS WITH BUILDINGS, IDEALLY, AS A BROADCAST TELEVISION ENGINEER, YOU'D LOVE TO SEE SOME METHOD BY WHICH VEGETATION COULD BE TAKEN INTO ACCOUNT IN PREDICTING BROADCAST TELEVISION SIGNAL PROPAGATION, RIGHT?

A. IT WOULD BE VERY INTERESTING.

Q. AND WHETHER YOU AGREE WITH THE WAY HE'S DONE IT OR NOT, THAT'S WHAT MR. BIBY HAS TRIED TO DO, CORRECT?

A. THAT'S CORRECT.

MR. SCHWARTZ: YOUR HONOR, MAY I HAVE JUST A MOMENT, PLEASE?

THE COURT: YES, YOU MAY.

(DISCUSSION HAD OFF THE RECORD.)

BY MR. SCHWARTZ:

Q. DO YOU STILL HAVE YOUR EXPERT REPORT BEFORE YOU?

BY THE WAY, WE APPRECIATE YOU HANGING IN HERE, MR. COHEN. WE ARE TRYING TO GET YOU BACK TO THE D.C. AREA.

A. YES, I HAVE MY EXPERT REPORT.

Q. I WANT TO DIRECT YOUR ATTENTION TO EXHIBITS J AND K, WHICH, FOR THE RECORD, WERE ADMITTED ALONG WITH THE REST OF US, OVER OUR OBJECTION, AND JUST ASK YOU TO BRIEFLY

REFAMILIARIZE YOURSELF WITH TABS J AND K TO WHAT I GUESS IS EXHIBIT 558.

A. YES, SIR.

Q. AND TO KEEP THINGS MOVING HERE, THESE ARE THE TABULATED TEST RESULTS FOR WHAT WAS DONE UNDER YOUR SUPERVISION IN THE AREA OF PITTSBURGH, RIGHT?

A. YES, SIR.

Q. ACTUALLY, J IS PITTSBURGH AND K IS JOHNSTOWN, PENNSYLVANIA, RIGHT?

A. YES, SIR.

Q. AND THIS IS ONE OF THESE SITUATIONS WHERE YOU WANTED TO DOUBLE-CHECK AND SEE WHETHER THERE WAS A NEARBY FOX AFFILIATE WHICH WOULD HAVE AN OVERLAPPING SERVICE AREA WITH THE FOX AFFILIATE W.P.G.H./CHANNEL 53 IN PITTSBURGH THAT WAS THE SUBJECT OF THE TESTING, IS THAT FAIR?

A. YES, SIR.

Q. NOW, YOU TALKED ABOUT HOW THERE COULD BE A SIGNIFICANT RANGE IN THE READINGS YOU RECEIVED WITH SIGNAL INTENSITY MEASUREMENTS OVER A 100-FOOT RUN, RIGHT?

A. YES, SIR.

Q. AND IF YOU TAKE A LOOK AT SOME OF THESE ENTRIES HERE FOR W.P.G.H., FOR EXAMPLE, ITEM 242 OR LOCATION NUMBER 242, DO YOU SEE THAT, 301 FROSTVIEW DRIVE?

A. YES, SIR, I DO.

Q. THE MINIMUM IS 22.7, THE MAXIMUM IS 63 AND A HALF

RIGHT?
A. YES, SIR.
Q. THE NEXT ITEM DOWN YOU GOT A MINIMUM 49.1 AND MAXIMUM 81.2?
A. YES, SIR.
Q. BY THE WAY, THIS CHANNEL 53 IS A U.H.F. STATION. WHAT'S THE GRADE B VALUE, AS YOU DEFINE IT?
A. 64 D.B.U.
Q. AND TAKE A LOOK DOWN AT NUMBER 387. JUST BY WAY OF EXAMPLE, THE RANGE IS FROM 48.3 TO 82.6, RIGHT?
A. YES, SIR.
Q. AND DOWN, AS YOU MOVE DOWN THE PAGE, NUMBER 590, THE RANGE CAN BE AS WIDE AS 24 TO 71, RIGHT?
A. YES, SIR.
Q. AND THERE'S AN EXAMPLE, JUST LOOKING AT NUMBER 590, WHERE THE MINIMUM IS WAY BELOW YOUR GRADE B VALUE AND THE MAXIMUM SOMEWHAT ABOVE, RIGHT?
A. THAT'S RIGHT.
Q. NOW, IF YOU WANTED TO BE ESPECIALLY SURE THAT THE PEOPLE THAT YOU WERE TESTING DID NOT HAVE ADEQUATE SIGNAL STRENGTH, YOU COULD FOCUS ON THE MINIMUMS, RIGHT?
A. IN MY MIND, THAT WOULD BE ABSURD.
Q. WELL, IF YOU WANTED TO ADOPT THE MOST COMPUTER -- I'M SORRY -- CONSUMER FRIENDLY USE OF THIS DATA, AND YOU ONLY WANTED TO DISQUALIFY FOR SATELLITE SERVICE PEOPLE, YOU COULD

BE ABSOLUTELY SURE GOT ADEQUATE SIGNAL STRENGTH AS YOU DEFINE IT, YOU COULD USE THE MINIMUMS, RIGHT?

A. AS I STATED BEFORE, THAT WOULD BE ABSURD BECAUSE --

THE COURT: WAIT. WHETHER IT'S ABSURD OR NOT, COULD YOU DO THAT?

THE WITNESS: I COULDN'T, NO.

THE COURT: ALL RIGHT.

BY MR. SCHWARTZ:

Q. AND HAVE YOU STOPPED WITH RESPECT TO PITTSBURGH, AND PARTICULARLY W.P.G.H./CHANNEL 53, TO SEE WHAT THE RESULTS WOULD BE IN IF YOU ONLY USE THE MINIMUM THAT YOU RECORDED IN THE HUNDRED FOOT RUN AS YOUR WAY OF DETERMINING WHETHER SOMEONE WAS ELIGIBLE OR NOT FOR NETWORK SERVICE UNDER THE SATELLITE HOME VIEWER ACT?

A. NO, SIR, I'VE MADE NO SUCH ANALYSIS.

Q. WOULD IT SURPRISE YOU TO LEARN THAT THREE-QUARTERS APPROXIMATELY OF THE 100 PEOPLE YOU TESTED FOR CHANNEL 53 WOULD BE ELIGIBLE UNDER THAT STANDARD?

A. NO, IT WOULDN'T SURPRISE ME.

Q. IT WOULD NOT?

A. NO.

Q. AND THAT WOULD -- AND EVEN IF YOU TOOK IN THE JOHNSTOWN, PENNSYLVANIA STATION, WHICH IS APPARENTLY NEAR W.P.G.H. AND APPLY THE SAME APPROACH, IT WOULDN'T SURPRISE YOU TO LEARN THAT THREE-QUARTERS OF THE PEOPLE WOULD BE